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EXAMINER

ROBINSON, ELIZABETH A

ART UNIT

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1794

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,877	<b>Applicant(s)</b> MEYER ET AL.	
	<b>Examiner</b> Elizabeth Robinson	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-10 and 12-24 is/are pending in the application.
- 4a) Of the above claim(s) 19-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-10,12-18 and 22-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-5, 7-10, 12-18 and 22-24 are currently being examined.

### ***Claim Objections***

**Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.**

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 8 appears broader than claim 1 since it only requires that the film system comprises several layers, while claim 1 requires that the film system comprises a plurality of films that contain organic and/or inorganic constituents etc.

### ***Specification***

The amendments, dated June 25, 2009, to the specification are approved except for the amendment at the top of page 3 which states, "Please amend the table at page 22, line 13 as follows". This amendment should be to page 25, line 13.

### ***Claim Rejections - 35 USC § 112***

**Claims 13-17 and 22-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The claim(s) contains

Art Unit: 1794

subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims add the limitation that the percentages are weight percentages. There does not appear to be support in the instant specification defining the basis on which these percentages are calculated.

**Claims 1, 3-5, 7-10, 12-18 and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Regarding claim 1, it is unclear what is meant by the phrase "hybrid film system". All other claims depend from claim 1 and thus are also rendered indefinite.

***Claim Rejections - 35 USC § 102***

**Claims 1, 3-5, 7-9 and 18 rejected under 35 U.S.C. 102(b) as being anticipated by De Boel et al. (US 4,190,698).**

Regarding claim 1, De Boel (Column 1, lines 13-23) teaches a light-transmitting (transparent) fire screening panel comprising a sheet of glass (film) and a layer of intumescent material. The intumescent layer (Example 1, Column 4) comprises sodium silicate (inorganic material) and glycerine (organic material) and thus, is a hybrid layer. A second sheet of glass can be applied to the film (Column 4, lines 29-34) and thus, the film is integrated into a construction element. The glass layers and the intumescent

Art Unit: 1794

layer are composed of different materials and by an alternative definition of hybrid make the structure a hybrid film system.

Regarding claim 3, De Boel (Example II, Column 5) teaches that film can then be adhered to the second glass sheet via a polyvinyl butyral layer.

Regarding claim 4, the intumescent material (Column 1, lines 13-23) is a silicate and thus, is siliceous.

Regarding claim 5, the layers 1 and 7 of Figure 2, can be considered a layer of the composition. The material of the intumescent part of the layer (1) is different than the adhesive portion of the layer (7).

Regarding claim 7, the intumescent layer is fire-retardant.

Regarding claim 8, the film of Example II comprises three layers.

Regarding claim 9, the intumescent layer of Example I, Column 4 has a weight ratio of  $\text{SiO}_2$  to  $\text{Na}_2\text{O}$  of 3.3. This is a mole ratio of 3.4.

Regarding claim 18, the film is a transparent sheet with glass layers and can be considered to be glazing.

**Claims 1, 7, 8, 10, 12 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by von Bonin (US 5,182,049).**

Regarding claims 1, 8 and 18, von Bonin (Column 4, lines 32-44) teaches clear gels that are suitable for use as an interlayer in fire prevention glazing. The gel is formed from an intumescent media (Column 1, lines 42-52). The gel can comprise organic amines and inorganic silicates (Column 2, lines 37-68) and thus, is a hybrid

Art Unit: 1794

layer. Alternately, the glazing layers that are different than the interlayer make the structure a hybrid film system.

Regarding claim 7, von Bonin (Column 4, lines 45-48) teaches that the material is fire-extinguishing.

Regarding claims 10 and 12, von Bonin (Column 2, lines 37-46) teaches that the intumescent media can also comprise swellable mica. Mica is a layered silicate that can comprise magnesium.

**Claims 1, 3, 4, 7-9, 13-16, 18 and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Zernial et al. (EP 1044801).**

Regarding claims 1, 7, 8 and 18, Zernial (Paragraph 1) teaches a fire protection glass comprising at least three glass panes and at least two fire retardant layers of aqueous alkali silicate (intumescent material). The intumescent layer (Example 1, Paragraph 27) comprises sodium silicate (inorganic material) and glycerine (organic material) and thus, is a hybrid layer. Alternately, the glass layers that are different than the fire retardant layers make the structure a hybrid film system.

Regarding claim 3, the intumescent layer adheres the two glass layers together (Example 1).

Regarding claim 4, the intumescent material is a silicate and thus, is siliceous.

Regarding claim 9, Zernial (Paragraph 13) teaches that the intumescent layer has a weight ratio of  $\text{SiO}_2$  to  $\text{Na}_2\text{O}$  from 2.7 to 3.5. This is a mole ratio of 2.8 to 3.6.

Art Unit: 1794

Regarding claims 13 and 22-24, Zernial (Paragraph 13) teaches that the intumescent layer preferably has a residual moisture level of 25 wt% and a glycerine content of 5 to 15 weight percent.

Regarding claims 14-16, the intumescent layer comprises 0 wt% MTEOS, 0 wt% TEOS and 0 wt% GTPS.

**Claims 1, 3-5, 7, 8, 14-16 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Bond et al. (WO 03/024682).**

Regarding claims 1, 3, 8 and 18, Bond (Pages 1 and 2) teaches a clear flexible film comprising sodium silicate waterglass (intumescent material). The intumescent layer (Page 2) further comprises glycerol (organic material) and thus, is a hybrid layer. The interlayer is then adhered to two layers of float glass via a glycerol adhesive layer to form a glazing (Page 7). The glass layers and the intumescent layer are composed of different materials and by an alternative definition of hybrid make the structure a hybrid film system.

Regarding claim 4, the intumescent material is a silicate and thus, is siliceous.

Regarding claim 5, the interlayer wetted with glycerol can be considered a layer. The surface would have a greater glycerol content than the rest of the interlayer.

Regarding claim 7, the intumescent layer is fire retardant.

Regarding claims 14-16, the intumescent layer has a water content of 25 % (Page 7). The water content is measured by weight (Page 6). The intumescent layer comprises 0 wt% MTEOS, 0 wt% TEOS and 0 wt% GTPS.

***Claim Rejections - 35 USC § 103***

**Claims 13, 17 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bond et al. (WO 03/024682).**

As stated above, Bond teaches a fire protection film with a residual water content of 25 wt% that meets the limitations of claim 1.

Regarding claims 13 and 22-24, Bond (Page 2) teaches that the waterglass solution comprises from 6 to 20 % by weight of glycerol (glycerin). This compound is present to improve the flexibility of the dried interlayer, without having a deleterious effect on the properties of the dried interlayer.

Bond does not teach what the percentage of this material is at a residual moisture level of 25wt%.

The film either meets the glycerin percentage limitations of the instant claims or it would be obvious to one of ordinary skill in the art to vary the amount of glycerin in the composition, in order to obtain a desired degree of flexibility for the interlayer.

Regarding claim 17, Bond (Pages 3-4) teaches that the waterglass solution can comprise a surfactant, preferably an alkyl glucoside surfactant. The quantity of the surfactant used will be sufficient to achieve a desired degree of wetting on the backing material and is determined empirically.

Bond does not teach the percentage of surfactant when the film is at a residual moisture content of 25 wt%.

However, the film either meets the surfactant weight percentage of the instant claim or it would be obvious to one of ordinary skill in the art to vary the amount of



Art Unit: 1794

surfactant, in order to achieve a desired degree of wetting on the backing material, as taught by Bond.

### ***Response to Arguments***

Applicant's arguments filed June 25, 2009 have been fully considered but they are not persuasive.

Applicant argues that the phrase "hybrid film system" is definite and means that there must be two layers. However, the Examiner maintains that it is unclear what hybrid means. This term could mean that the layers are formed from different types of materials or that an individual layer must have 2 different materials in the layer. The Examiner has presented a rejection for each interpretation.

Applicant argues that the glass layers of De Boel et al. (US 4,190,698) and Bond et al. (WO 03/0246821) are not films. However, there is no definition in the instant specification that defines the term "film", nor is there claim language specifying the material or thickness of the film. While Applicants points to several portions of the specification to support their interpretation of "film", none of the portions disclose a definition of the word film. The Examiner maintains that barring a definition, the glass layers can be considered to be films under the broad definition of the term as a thin sheet of material.

Applicant argues that the other layers of von Bonin (US 5,182,049) and Zernial et al. (EP 1044801) are unclear. However, these other layers are clearly stated as glazing/glass layers and as stated above, meet the broad definition of films.

Due to amendments to the claims, the 35 U.S.C. 112, first paragraph rejections from the February 26, 2009 Office Action are withdrawn.

Due to amendments to the claims, the 35 U.S.C. 112, second paragraph rejections from the February 26, 2009 Office Action over the term "high elasticity" in claim 2, the term "high-melting" in claims 10 and 11, the use of trademarks/tradenames, the use of acronyms and the use of a broad and narrow range in the same claim are withdrawn.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Robinson whose telephone number is (571)272-7129. The examiner can normally be reached on Monday- Friday 8 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. R./  
Elizabeth Robinson  
Examiner, Art Unit 1794

October 29, 2009

/Callie E. Shosho/  
Supervisory Patent Examiner, Art Unit 1794